THE PHILADELPHIA NEUROLOGICAL SOCIETY.

December 18, 1899.

The President, Dr. James Hendrie Lloyd, in the chair.

Dr. Wharton Sinkler reported a case of acute poliomyelitis anterior in youth seventeen years of age. (See p. 205).

Dr. William G. Spiller said that he had examined specimens from three cases of anterior poliomyelitis, and in two of these cases death had occurred a few days after the commencement of the disease. Last spring Dr. Sherman, of Buffalo, sent him the spinal cord and parts of the brain from a case which had been regarded as one of Landry's paralysis. They showed the lesions which have been found a number of times in anterior poliomyelitis. There was intense perivascular round-cell infiltration and the motor cells of the cord were almost entirely destroyed. No nerves from this case were obtained. The changes were not limited to the anterior horns, although much more intense there, and perivascular infiltration was found in the white columns and the meninges were affected.

Dr. Spiller said he had seen a few cases of anterior poliomyelitis in which the paralysis was limited to some of the muscles of the leg below the knee, and in these cases the knee-jerk was preserved.

It does not follow because some pain is present in these cases with symptoms of poliomyelitis, that the condition is one of neuritis. As the inflammation is not strictly limited to the anterior horns, it is easy to understand that some pain may occur, although it does out a wheel-chair or crutches.

Dr. Charles W. Burr said that six or seven years ago Dr. Sinkler had had a case of acute infantile spinal palsy in which death occurred in the acute stage. Dr. Burr had examined the spinal cord and found that the lesions were not confined to the anterior gray matter, although that region was the seat of the most marked disturbance. There was an acute transverse myelitis affecting the anterior cells in the lumbar cord, and causing almost their entire destruction, and the whole white matter was involved to a greater or less degree.

Dr. A. A. Eshner said that five years ago he had observed a case similar to the one reported, in a man thirty-three years of age, the only point of etiological significance being the occurrence of gonorrhea fifteen years previously. In this man the first notable symptoms were some difficulty in the expulsion of urine and slight loss of power in the left lower extremity which later became more marked. There were enfeeblement of the knee-jerk and wasting on the affected side, but no sensory symptoms. This man is now unable to get about without a wheeled chair or crutches.

With regard to etiology it seems probable that anterior poliomyelitis is not due to a single specific cause, but may be brought about by a variety of conditions. The disease may be the expression of a variety of infections, with predominant localization in the anterior horns of the spinal cord.

The differentiation between peripheral neuritis, particularly of the motor variety, and anterior poliomyelitis is at times extremely difficult. Viewing the lower motor segment as one continuous whole, it is easy to understand that in certain instances the motor cells of the cord may suffer most, or exclusively, while in other instances the nerve fibers may suffer especially; or there may be simultaneous involvement of the motor cells and the afferent axones. In this way phenomena may occur that are more peculiarly spinal, or peculiarly peripheral, or finally, a mixture of both. Ordinary multiple neuritis is commonly the manifestation of a general toxic process, so that one may reasonably expect involvement of both sensory and motor nerves.

Dr. James Hendrie Lloyd remarked that Dr. Sinkler's statement that neuritis may have been present in this case recalled a case at the Philadelphia Hospital which he had reported some years ago. The patient was a ship carpenter, who, when crossing the equator, and being much overheated, had permitted himself to be drenched with buckets of water taken from the sea, which, of course, could not have been very cold. This bath sufficed, however, to bring on paralytic symptoms that completely invalided him in the course of a few days. He was taken to a hospital in Rio, and in the fall of that year came to Philadelphia. When he arrived at the Philadelphia Hospital, he was in a condition of well-marked locomotor ataxia. There was also a history of syphilis. The abrupt onset of paralytic symptoms following sudden checking of the perspiration suggested that the case had been originally complicated with multiple neuritis, which gradually recovered, leaving the central lesion permanent.

Dr. Wharton Sinkler said with regard to pain, that there was no more constant symptom in poliomyelitis at the onset, than pain. It is of a totally different character from the pain of peripheral neuritis. It is more of a myalgia, and is increased by muscular movements. There is no true hyperesthesia. That character of pain is sufficient to establish the differentiation between this disease and peripheral neuritis. The fact that the loss of power so promptly receded from the right leg in the patient shown by him, was another characteristic of poliomyelitis and quite different from what is seen in multiple neuritis.

Dr. James Hendrie Lloyd exhibited a patient with unilateral motor disturbance.

The patient was a white woman aged 22 years. The family history was negative. When 12 years of age, she had attacks in which she felt as though she had a lump in her throat. Menstruation began at the age of 18 years, but had been irregular, there being sometimes one year between the periods.

Movements similar to those which she now presents began about five years ago, and have occurred at intervals of two or three weeks ever since. The present attack began nine weeks ago.

The movements consist in a more or less purposive extension and drawing up of the left leg and a pounding of the bed or limb with the left hand. These movements continue during the day and disappear when she sleeps.

There is no area of anesthesia, and the heart and lungs are apparently normal. (This case will be made the text for a paper to be read at a future meeting of the society.)

Dr. Charles K. Mills thought that there was little doubt that this was a case of what might be termed hysterical rhythmic chorea. Nearly twenty years ago he had seen a very similar case and had shown it to the County Medical Society, where he hypnotized the patient. In this case the movements were on both sides. The patient did not improve under treatment. After some years she was sent to Lourdes, the famous religious resort, and there was cured.

Dr. F. S. Pearce remarked that the rhythmic condition reminded him of a case which he had seen in Dr. S. Weir Mitchell's clinic. The patient was a woman who had rhythmic up-and-down spasmodic movements of the larynx, occurring eighty or ninety times per minute. It was supposed to be due to the "use of a pessary." Dilatation of the uterus was done and various other suggestions made, but without any effect. Dr. Mitchell considered the case as hysterical.

Dr. A. A. Eshner referred to a case reported in 1876, by Dr. Weir Mitchell as one of pendulum-spasm, in which a rhythmic movement not unlike that exhibited by Dr. Lloyd's patient has been present in all the intervening years, except for a brief period recently when the movement yielded to hypnotic suggestion on the part of Dr. J. Madison Taylor. Subsequently, however, recurrence took place as a result of some emotional excitement. Renewed treatment was again followed by a cessation of the movement, but the man evidently came to the conclusion that he led a more successful life with the movements, so that he has declined further treatment. The movements occurred in the erect posture and ceased in recumbency, and when the hand was raised above the head.

Dr. Wharton Sinkler said that the movements in this case were characteristic of hysterical rhythmical chorea. He had seen a number of such cases. Seven years ago, he had under treatment a young woman with almost identical movements of the right upper extremity which had lasted for three or four months. She was cured in about a month and remained well. Three or four days ago she came to Dr. Sinkler's office bringing her child twenty-one months old, rachitic, with a tendency to hydrocephalus and a very distinct rotary movement of the head, but without nystagmus. This he considered rather curious in view of the previous history of the mother.

Dr. James Hendrie Lloyd said that while his first impression was that this was a hysterical case, yet he was not sure of it until after he had studied it with some care. It was unlike any motor disorder of hysteria that he had seen or read about. It was not inco-ordination, and it was not tremor. It was unilateral, which is rather in accord with hysterical phenomena. It had not been possible to determine any other hysterical manifestations in the case. He thought that the case might properly be called one of hysterical choreaform movement.

Dr. Charles K. Mills described a case of unilateral progressive ascending paralysis, probably representing a new form of degenerative disease. (See p. 195).

Dr. Wharton Sinkler said that he had examined this patient very carefully. The diagnosis in his mind lay between two conditions: either a focal destructive lesion of the posterior part of the internal capsule or thalamus, or inflammation of the spinal nerve roots. He thought that the former might be the case, from the peculiar inco-ordination of the right hand. This hand could not be used unless the patient watched it. The absence of cerebral symptoms, the absence of fundus oculi changes and of convulsions, led the speaker to be more inclined to the view that this patient might have involvement of the spinal nerves at their points of emergence from the spinal canal. This seemed plausible from the hyperesthesia which was a conspicuous symptom, and the attack of herpes zoster preceding or accompanying the motor symptoms.

Dr. Charles K. Mills regarded the sensory symptoms which had been present in his case rather as epiphenomena. The man had notable weakness in the right leg for several months before he had this attack of pain in the gluteal region and hips. He did not consider this an essential feature of the disease. The case did not represent clearly any form of disease described in the books.

ACUTE INTERNAL HYDROCEPHALUS.

Dr. Chas. W. Burr and Dr. D. J. McCarthy reported the following case: W. S., a fireman by occupation, was admitted to the service of Dr. Burr at the Philadelphia Hospital, with intense pain in the head, and rigidity of the neck, and later had delirium and unconsciousness. The temperature was elevated, the tongue coated, and marked constipation was present. This condition lasted for three weeks, and was marked by the vacillating, intermittent character of the symptoms. At the end of three weeks the temperature fell to normal, and a condition resembling very much the initial stage of general paralysis of the insane developed. About the middle of the sixth week the temperature went up to 103 degrees, and the patient presented the same symptoms as were present on admission. This condition lasted five days, and was followed by a period of purely psychical phenomena. Another exacerbation of the febrile symptoms occurred, and the patient died in a condition of low muttering delirium. At the autopsy internal hydrocephalus, with marked edema of the cord was found. Microscopical examination revealed widespread inflammatory changes, affecting the ependyma and subependymal tissues; acute and chronic inflammatory degenerative changes in the choroid plexus, and degeneration of both auditory nerves. No changes were present in the cord to explain the disappearance and return of the knee-jerk which occurred during the course of the disease. Experimental injection of toxic substances and acid irritants into the ventricles of animals revealed interesting reactive changes in the ependyma and subependymal tissues, resembling the changes described above, and in so far supplied a toxemic origin of the internal hydrocephalus.

Dr. William G. Spiller had seen this case in Dr. Burr's service and thought that at that time it presented much the appearance of meningitis. He had also examined the interesting specimens. It has been held by many that a poison may exist in the cerebro-spinal fluid and act upon the brain and cord, producing inflammation, but he was not aware that this had been demonstrated experimentally in the way that it had been done by Drs. Burr and McCarthy. Ependymal granulations are not very uncommon in cases of paretic dementia and cerebral syphilis. He had seen Argyll-Robertson pupil in syphilis. This condition in syphilis has been explained as the result of ependymal granulations and proliferation of the subependymal tissue of the aqueduct of Sylvius. It is possible that the polioencephalitis superior that occurs in alcoholic subjects may be produced in the same way, but this is doubtful, as it is strange that the irritation is not manifested also in the area around the fourth ventricle.

In some of the specimens of the case reported there were granulations which resembled, very closely, some which Dr. Spiller had seen in preparations made by Dr. Sottas, of Paris, in his study of cerebrospinal syphilis.

It has been thought that in some cases where disease rapidly extends up the spinal cord, that the poison has been transmitted through the central canal. That may be possible, especially in cases of hydromyelia.

In the case of Drs. Burr and McCarthy, the spinal cord was said to be exceedingly edematous, so much so that it bulged very greatly. A similar condition had been recently reported in a case of brain tumor, and the loss of knee-jerk that had occurred was explained by this edema of the cord, producing degeneration of the posterior roots. In the case of Drs. Burr and McCarthy, no degeneration of the posterior roots was observed.

The loss of hearing was interesting. There was distinct degeneration of the acoustic nerves, and possibly this degeneration was due to the pressure of the fluid in the fourth ventricle.

Dr. Joseph Sailer reported a case of motor and sensory disturbance of obscure nature.

Dr. William G. Spiller remarked that the disturbance of sensation and motion on the same side of the body made the diagnosis of a spinal lesion doubtful.

Dr. Charles W. Burr asked Dr. Spiller whether it had yet been proven where the nerves of pain and heat and cold sensation cross in the cord.

Dr. Spiller replied that the course of sensory fibers has not been so well worked out as that of motor fibers. The view held by many investigators is, that the fibers of so-called muscular sense or deep sensation, ascend in the posterior columns; the fibers from the lower limbs in the columns of Goll, and those from the upper limbs in the columns of Burdach. Dr. Spiller said he had never found degeneration in the lateral columns from lesions of the posterior roots. This has been seen in experimental work and is probably due to traumatism of the antero-lateral columns. Considerable evidence is found for the view that the tactile fibers ascend in the posterior columns, and a case of syringomyelia reported by Dr. Dercum and himself, was of value in this connection. Some hold that the tactile fibers ascend in the anterior-lateral columns after decussating. It is probable that the fibers of temperature and pain sense decussate after entering the cord —as was evident in the case of syringomyelia limited to one posterior horn in the cervical region, reported by Dr. Dercum and himself— and that the posterior root fibers end in the gray matter, and new neurons commence in that part. In Brown-Séquard paralysis motion is affected on one side and pain and temperature sense on the other, but in many cases tactile sense is intact on both sides.

Dr. F. S. Pearce said that the paresis of the face which he understood had occurred at one time, with the nystagmus, would indicate some involvement of the cerebrum. The idea of cerebro-spinal vasomotor change with serous effusion would correspond with the symptoms of the case, and would also, he thought, agree with the rapid convalescence.